

WE are glad to see that the London County Council has this year again arranged special beds of plants in Battersea, Ravenscourt and Victoria Parks, with a view to encourage the study of botany among pupils in elementary and secondary schools. At each of these parks about twenty beds are arranged near the paths, each bed containing specimens of a distinct order of plant, and each plant being labelled with its common name and its Latin name. In order to further assist the teaching and study of plants, arrangements have been made by which teachers may obtain orders from the Council's Technical Education Board which will enable them to secure specimens suitable for teaching purposes.

OUTDOOR work by students appears to be carried on in connection with several institutions on the other side of the Atlantic. We notice in *Science*, for instance, that the biological department of the University of California has just commenced a systematic biological survey of the coast of that state. Temporary headquarters are established at San Pedro, and the work during this summer will be carried south from Pt. Conception toward San Diego. A gasoline launch, which has been obtained for the season, will be fitted out with apparatus for dredging, sounding and making observations on temperature, salinity, specific gravity, &c. The work will be carried on by the members of the department and graduate students, together with a number of investigators who have already interested themselves especially in the west coast faunas. A party of students from Harvard University will undertake, this summer, an expedition to Venezuela for botanical and zoological research. We see also that the Mining School of McGill University will this year carry on its summer work in British Columbia. The class has just left Montreal to go out to the Pacific coast, visiting the various collieries along the line of the railway and on Vancouver Island. The party will then go into southern British Columbia for the purpose of studying the mineral deposits of the Slocan, Trail Creek and Boundary Districts, and, returning by the Crows' Nest Pass route, will visit the coal mines at Fernie Hethbridge, reaching Montreal again about the middle of June.

At a meeting of the Court of Governors of University College, Liverpool, on Saturday last, the following resolution was passed:—"That, while gratefully acknowledging the advantages which have accrued to University College, Liverpool, by its association with the Victoria University, this Court is of opinion that a University should be established in the city of Liverpool, and will welcome a scheme with this object upon an adequate basis." In moving this resolution, Mr. Robert Gladstone, who presided, remarked that the success of the college showed the need for a University. The fees from students had increased from 700*l.* in its first year to 9500*l.* this year. Within the last few years 22,000,000*l.* sterling had been given by private individuals in the United States towards founding Universities and colleges. Was it not the duty of the wealthy people of this country to follow that excellent example? If they did not they could hardly complain if trade passed away and our prosperity diminished. We had already had a blow from German chemists. The great indigo industry in India, which had made the fortunes of many people and been a great source of trade, was threatened with extinction by chemical discoveries made in Germany. It was a misfortune they were not made in this country, as they might have been if we had been better provided with means of investigation. He hoped that the people of Liverpool who had been indifferent to the progress of the college would awake to a better state of mind, and that by their assistance they might succeed in putting Liverpool in as pre-eminent a place with regard to learning as she now enjoyed with reference to commerce.

#### SOCIETIES AND ACADEMIES.

LONDON.

**Royal Society, March 28.**—"Further Observations on Nova Persei, No. 2." By Sir Norman Lockyer, K.C.B., F.R.S.

In continuation of previous papers, the observations of the Nova made at Kensington are brought to midnight of March 25. Since the last paper of March 7, estimates of the magnitude of the Nova have been made on ten evenings, visual observations of the spectrum on eight evenings, and photographs of the spectrum on four evenings.

Since March 5 the magnitude of the star has been gradually decreasing, but between the nights of the 24th and 25th the light of the Nova decreased very suddenly, dropping from 4.2 to 5.5 in twenty-four hours, and becoming only just visible as a naked-eye star.

The colour of the Nova has undergone some distinct changes since the observation on March 5 last, when it was shining with a clarety-red hue. On the 9th and 10th it was observed to be much redder, due probably to the great development of the red C line of hydrogen.

On the 23rd and 24th the star was noted as yellowish-red, while on the 25th (after the sudden drop in magnitude) it was very red, with, perhaps, a yellow tinge.

On March 6 the photographs were very similar to those obtained in the earlier stages, the only apparent difference being in the relative intensity of the bright hydrogen lines as opposed to those having other origins, most of which have been shown to be probably due to iron and calcium. The hydrogen lines have sensibly brightened, while the others have become much feebler.

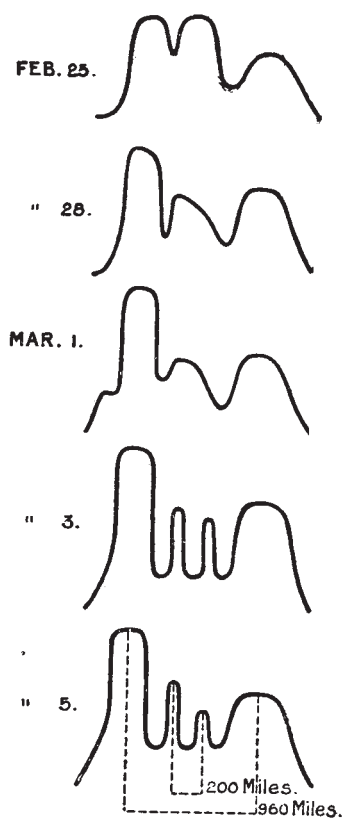


FIG. 1.—Light curve of H $\beta$  (6-inch objective prism).

The photograph of March 10 shows a further dimming of the bright lines other than those of hydrogen.

On March 25, when the next good photograph was taken, the spectrum had undergone great modifications. The hydrogen lines are still very bright, though they do not show the structure which they did in the photographs taken between February 25 and March 10. The bright lines other than those of hydrogen, which are seen in the earlier photographs, have now disappeared, and other lines become visible. The continuous spectrum has also greatly diminished.

Approximate determinations of the wave-length of these new lines have been made by Mr. Baxandall by comparison with lines of known wave-length in the spectra of  $\alpha$  and  $\epsilon$  Persei photographed with the same instrument.

The lines at  $\lambda$  3870 and 4650 are perhaps identical with those observed by von Gothard<sup>1</sup> in the spectrum of Nova Aurigæ

<sup>1</sup> *Ast. Phys. Jour.*, vol. xii., 1893, p. 51.

after it had become nebular, but associated with these lines in his record is the chief nebular line at 5007, no trace of which is yet visible in the photographs of the spectrum of Nova Persei. On the other hand, H $\beta$ , which is the brightest line in the present spectrum of Nova Persei, does not appear at all in von Gothard's spectrum of Nova Aurigæ.

In the former paper the structure of the broad bright lines of hydrogen was referred to. A more detailed examination of the lines as photographed on several evenings shows that this structure has been undergoing changes.

The annexed figure (Fig. 1) gives light curves showing the variation in the loci of intensity of the line H $\beta$ , as photographed with the 6-inch prismatic camera. These curves were plotted by Messrs. Baxandall and Shaw independently of each other, and I have satisfied myself of their accuracy. It will be seen that on February 25 there were three points of maximum luminosity, the two maxima on the blue side being of equal intensity, and greater than the third on the red side. By March 1 the centre one had greatly been reduced in intensity, and on the 3rd it had been broken up into two portions, thus making four distinct maxima.

Rough measures made on the relative positions of these points of maxima show that the difference of velocity indicated between the two external maxima is nearly 1000 miles per second, while that between the two inner maxima is 200 per second. We thus have indications of possible rotations or spiral movements of two distinct sets of particles travelling with velocities of 500 and 100 miles per second.

A similar examination of the F and G lines of hydrogen in the photographs obtained with the 30-inch reflector has also been made by Dr. Lockyer. In this longer series the most important point comes out that the maximum intensity changes from the more to the less refrangible side of the bright hydrogen line.

"On the Electrical Conductivity of Air and Salt Vapours." By Harold A. Wilson, D.Sc., M.Sc., B.A., Allen Scholar, Cavendish Laboratory, Cambridge.

The experiments described in this paper were undertaken with the object of obtaining information on the variation of the conductivity of air and of salt vapours with change of temperature, and on the maximum current which a definite amount of salt in the form of vapour can carry. They are a continuation of the two researches on the same subject published in the *Phil. Trans.* for 1899.

The method employed in the experiments described in the present paper was the following:—

A current of air containing a small amount of a salt solution in suspension in the form of spray was passed through a platinum tube heated in a gas furnace; this tube served as an electrode, and the other was fixed along its axis. The temperature of the tube was measured by means of a platinum platinum-rhodium thermo-couple, and the amount of salt passing through the tube was estimated by collecting the spray in a glass-wool plug.

The variation of the current at constant E.M.F. with the temperature for air was found to be approximately capable of being represented by a formula of the type  $C = A\theta^n$ , where  $C$  is the current,  $\theta$  the absolute temperature, and  $A$  and  $n$  constants. The constant  $n$  depends on the E.M.F. used. With 240 volts it was 17, and with 40 volts 13. The current, therefore, does not begin suddenly when the temperature is raised, but always increases regularly with the temperature, so that the lowest temperature at which the current can be detected depends entirely on the sensitiveness of the galvanometer.

The relation between the current and temperature for salt vapours was found to be rather complicated. With KI, using an E.M.F. of 800 volts, the current had the following values ( $1 = 10^{-4}$  amperes).

Temp.	500°	600°	700°	800°	900°	1000°	1100°	1150°	1200°	1300°
Current	0.7	1.8	3.0	4.0	4.5	4.0	3.5	3.6	7.0	7.0

Thus the current has a maximum value near 900° C., and rises very rapidly near 1150°. Similar results were obtained with other salts.

The maximum current carried by the salt vapour (at 1300° with 800° volts) was found to be nearly equal to that required to electrolyse the same amount of salt in a solution. This fact must be regarded as considerable evidence in favour of the view that the ions are of the same nature in the two cases.

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Linnean Society, April 18.—Prof. S. H. Vines, F.R.S., president, in the chair.—Mr. Harting exhibited and made remarks upon a mummified hawk from an Egyptian tomb, pointing out the difference between mummies made at Memphis, which are black, dry and brittle, from the bitumen employed in the embalming process, and those from Thebes, which, like the specimen exhibited, are of a yellowish colour, more flexible, and were prepared with natron, or neutral carbonate of sodium, Na<sub>2</sub>CO<sub>3</sub>, brought from the natron lakes in the Lybian desert. Colonel Swinhoe confirmed the statement that our word "mummy," Fr. *momie*, Sp. *momia*, was derived from the Arabic *moum*, wax, the most expensive process of embalming known to the Egyptians being that in which wax and bitumen were the chief ingredients.—Mr. Charles Dawson exhibited a hollow flint nodule which had been picked up on the downs at Lewes, and which on fracture was found to contain the desiccated body of a toad. The flint measured 5½ inches in length and 12 inches in circumference, and a small hole at one end indicated the point of ingress for the toad, which must have entered in a very immature condition, and died there after having attained a size too great to permit of its escape. In the discussion which followed, remarks were made by Mr. E. T. Newton, F.R.S., Mr. John Lewis, and others, the general opinion being that a modern toad had crept into an ancient flint, and, having lived for a time on such insects as found their way into the cavity, had died there.—Mr. S. Pace exhibited specimens of *Moseleya latistellata*, Quelch, the so-called "rugose coral" from Torres Strait. The specimens shown were obtained from the backs of pearl-shells collected in Friday Island passage at a depth of three to four fathoms. In the opinion of Mr. Pace they showed that the so-called coral was really a species of *Lithophyllia*.—Mr. W. B. Hemsley, F.R.S., exhibited the leaves and flowers of two new genera of Chinese trees: (1) *Bretschneideria*, discovered by Dr. Henry in the province of Yunnan, lat. 23° N., in forests at an elevation of 5000 feet, and bearing pink and white flowers like the horse chestnut, to which it is related; and (2) *Itoa*, also a native of Yunnan, growing at a similar elevation and to a height of about twenty feet. The genus, named in honour of a famous Japanese botanist, was stated to be allied to *Idesia*, Maxim., *Poliothyrus*, Oliver, and *Carrierea*, Franch., all monotypic genera inhabiting China, but differing from them in certain respects which Mr. Hemsley indicated.—Mr. S. Pace read a paper on the formation and variation of the remarkable cup-shaped corallum of *Turbinaria*, on which no observations appeared to have been recorded. This was supplemented by a letter from Mr. H. M. Bernard, in which he offered some critical remarks on the paper which the author had previously submitted to him. Further observations on the bearing of the facts described were made by Prof. Howes.—Messrs. W. B. Hemsley, F.R.S., and H. H. Pearson communicated a paper on the flora of Tibet, based on various collections of high-level plants received at the Kew Herbarium. The country dealt with was described as lying between 80° and 102° lat. and 28° and 29° long., and having an average altitude of 15,000 feet. Within this area 360 species of vascular plants had been collected, and were referred to 144 genera and 46 natural orders. Almost all the orders represented were nearly of world-wide distribution, and none were really local. Of the 360 species only 30 appeared to be peculiar to Tibet. In illustration of the paper a selection of the plants was exhibited; most of them dwarf deep-rooted herbs, very few annual or monocarpic, and the only woody plant, *Ephedra Gerardiana*, was described as scarcely rising above the surface of the ground. The majority had been collected at altitudes varying between 15,000 and 18,000 feet. Mr. C. B. Clarke, F.R.S., in making some observations on the paper, pointed out that the name "Thibet" or "Tibet" was quite unknown to the people who dwelt in the country so-called, and its precise boundaries were even still imperfectly defined. It was convenient, however, to retain a name by which it was known to so many European travellers, and the explorations and collections were making us better acquainted with the country every day.

Zoological Society, May 7.—Prof. G. B. Howes, F.R.S., vice-president, in the chair.—Mr. Sclater exhibited and made remarks on an original water-colour drawing by Sir Harry Johnston, K.C.B., of the remarkable new Mammal from the Semliki Forest in Uganda, which had been described (from fragments of skin only) under the name *Equus johnstoni*, and announced that the complete skin and two skulls from which



it had been prepared were now on their way home. There could be no doubt that the animal was not an Equus, and could not be placed satisfactorily in any known genus of recent Mammals.—Dr. W. G. Ridewood exhibited and made remarks on a series of microscopic preparations of the hairs of Antelopes, Giraffe, Zebra, and the so-called *Equus johnstoni*, pointing out that the hairs of the last-named animal were similar to those of the Giraffe as well as those of the Zebra, but different from those of the Antelopes.—Mr. R. I. Pocock communicated a paper, by Mr. G. W. Peckham and Mrs. E. G. Peckham, on the spiders of the family Attidae found in Jamaica, West Indies. It contained descriptions of thirteen new species, of which one was made the type of a new genus—*Nilakantha*.—Dr. David Sharp, F.R.S., communicated a paper by Mr. Peter Cameron, containing an account of the Hymenoptera collected during the "Skeat Expedition" to the Malay Peninsula. Fifty-four species were enumerated in the paper, of which thirty-one were described as new.—Dr. David Sharp also communicated a paper by Mons. Eugène Simon on the Arachnida collected during the "Skeat Expedition." It consisted of a list of the 131 species represented in the collection and descriptions of forty-eight new species and four new subspecies.

**Royal Astronomical Society, May 10.**—Mr. Hinks exhibited and described a new machine for measuring celestial photographs, made for the Cambridge Observatory under his superintendence, in the construction of which several improvements had been effected.—Dr. Lockyer showed slides from photographs of Nova Persei, and curves exhibiting its changes of magnitude.—Father Sidgreaves gave further results of the Stonyhurst observations of the spectrum of the Nova, which distinctly varied with the variations of its light.—Father Cortie read a paper on its visual spectrum, showing that the D lines came out strongly at a minimum, and that the spectrum resembled that of the solar chromosphere.—Prof. Turner communicated Mr. Bellamy's observations of the magnitude of the Nova and the neighbouring stars.—Mr. Wickham read the observations for magnitude made at the Radcliffe Observatory, Oxford, which supplemented and confirmed the observations made at South Kensington.—A curve made by Mr. Child was shown, exhibiting the variations in the brightness of the new star from the time of its discovery.—Observations of magnitude by Mr. Sharp and Mr. Stanley Williams were also read.—Father Sidgreaves suggested an explanation of the fact that the displacement of the lines in the spectra of new stars always indicated a rapid motion of approach.—Prof. Turner read a paper by Mr. H. C. Plummer on the geometry of the siderostat.—A paper by Mr. Franklin Adams was read on an observation of the "green flash" at sunset, a phenomenon which he considered similar to that of "Baily's beads" seen during a total solar eclipse.—Mr. Crommelin gave approximate elements of the orbit of the new comet, from which it appeared that it is moving rapidly from the sun and more slowly from the earth, and that its brightness is rapidly diminishing. Although it should shortly be visible in the evening sky it is improbable that it will be a conspicuous object.

## DUBLIN.

**Royal Irish Academy, May 13.**—Prof. R. Atkinson, president, in the chair.—Hipparchus and the precession of the equinoxes, by Rev. M. H. Close. Hipparchus discovered the increase of the longitudes of the fixed stars, which produces the precession of the equinoxes, as we term it. That increase might be due to (a) the eastward progression of the stars; or to (b) the westward retrogression of the equinoctial points, from one of which the longitudes are reckoned; or to (c) both these movements existing together. We may dismiss c at once. Did Hipparchus believe in a or in b? Laplace, Lalande, and many others declare that he believed in a; Delambre, Bailly, and many others that he believed in b. None give any arguments for their opinions. Which are right? The former, as would appear thus: (1) Hipparchus admittedly shared the general belief of his times in the immobility of the earth. He had therefore a predisposition against b, which involves a movement of the earth. (2) Ptolemy's treatment in the *Almagest* of certain apparently (only) inconsistent expressions of Hipparchus on the present subject shows that he (Ptolemy), who ought to know, held that Hipparchus believed in the progression of the stars. Besides which, we have, in two places in the same work,

Ptolemy's direct statement to the same effect. (3) At first, when Hipparchus had examined only certain zodiacal stars, and had observed their apparent progression, he supposed that the extra-zodiacal stars did not participate therein. But he could not have supposed this had he believed in the retrogression of the equinoctial points, for that would give an apparent progression to all the stars. He found afterwards, however, that the stars outside the zodiac preserved their positions relatively to those within, which, from his above-mentioned predisposition, would mean for him that all the stars progressed together.

## PARIS.

**Academy of Sciences, May 6.**—M. Fouqué in the chair.—The influence of feeding, temperature, work and dust upon the evolution of tuberculosis, by MM. Lannelongue, Achard and Gaillard. A series of guinea-pigs, artificially infected with tuberculosis, were submitted to varying external conditions. If compelled to do a certain amount of mechanical work each day, the mortality increased with the amount of work done, those remaining at rest showing the most survivors. With insufficient food the effects were equally marked, those on full rations having the best chance of survival. The inhalation of dust had the same prejudicial effect as in man.—On the fourth volume of the *Annales de l'Observatoire de Toulouse*, by M. Leewy.—M. Zeuner was elected a correspondant for the section of mechanics, and M. Oudemans a correspondant for the section of geography and navigation in the place of the late M. de Serpa Pinto.—The last sign of life; its application to man, by Dr. A. D. Waller. A modification of the method previously described, but in which the skin remains intact.—The thermal variations of waters, by M. F. A. Forel. The amplitude of the annual thermal variation is a function of the latitude. The depth of penetration of the heat is also a direct function of the latitude, amounting to about 100 metres for the Lake of Geneva, more than 150 metres for Loch Katrine, and more than 200 metres for Lakes Mjösen and Ladoga.—Application of the wedge photometer to the measurement of the photographic magnitudes of the stars, by M. B. Baillaud. The method would appear to give the most trustworthy results with stars of higher magnitudes, the measurements with the more brilliant stars not being so satisfactory.—Some new nebulae discovered at the Observatory of Paris, by M. G. Bigourdan. A list of new nebulae, mostly fainter than thirteenth magnitude, together with rectifications of the positions of some nebulae previously described.—On a particular class of ruled surfaces, by M. A. Demoulin.—On the continuous deformation of surfaces, by M. G. Tzitzeica.—On Taylor's series, by M. L. Desaint.—A practical method for the correction of the secondary error of chronometers, by M. Ch. Ed. Guillaume. An application of the properties of nickel steel to the more perfect temperature compensation of chronometers.—On the existence of open currents, by M. V. Crémieu. As a consequence of the proof previously given that electric convection produces no magnetic effect, it follows that open currents ought to exist. Experiments are now described verifying the existence of these.—On osmosis through a membrane of copper ferrocyanide, by M. G. Flusin. An experimental determination of the relation between the osmotic pressure and the speed of osmosis. For solutions of saccharose, amygdalin and antipyrine the observed pressures agree satisfactorily with those calculated theoretically, none of the substance passing through the membrane. With a 1 per cent. solution of urea the observed pressure was far lower than that calculated, and in this case it was found that urea had passed through the membrane. The velocity of osmosis depends upon the thickness of the membrane, but for a given porous pot the velocities are proportional to the osmotic pressures, and hence inversely proportional to the molecular weights.—On the aluminium alloys. Combinations of aluminium with tungsten, by M. Léon Guillet. By the reduction of tungstic anhydride with an excess of aluminium a tungstide of aluminium can be isolated in the crystalline state, possessing the formula  $AlW_2$ .—On an iodoantimonide of mercury, by M. Albert Granger.—On a specimen of crystallised lime, by M. Ad. Jouve. In the preparation of calcium carbide, if the mass be cooled at the moment that the carbide commences to form, transparent prismatic needles of lime are obtained.—On the chemistry of methylene, by M. V. Thomas.—On the hydration of amylopropionic acid with the formation of caproylacetic acid, by MM. Ch. Moureu and R. Delange. Amylopropionic acid cannot be hydrolysed by sulphuric acid, but the reaction can be effected

by boiling with caustic alkalis the  $\beta$ -ketonic acid, caproylactic acid being formed.—On dimethyl-pyruvic acid, by M. A. Wahl. Of the various methods attempted to prove the constitution of this acid, the only one meeting with success was the reduction to  $\alpha$ -oxy-isovaleric acid by sodium amalgam.—On the anhydride of the supposed binaphthylene-glycol, by M. R. Fosse.—Action of the acid chlorides upon the ether oxides in the presence of chloride of zinc, by M. Marcel Descudé. In presence of anhydrous zinc chloride acetyl chloride reacts violently upon ordinary ether, giving ethyl acetate and ethyl chloride.—On the migration of the ternary materials in annual plants, by M. G. André. On the evolution of immature eggs of *Rana fusca*, by M. E. Bataillon.—On the development of the sole in the laboratory of Concarneau, by MM. Fabre-Domergue and Eugène Biérix. The authors have been successful in developing soles from the eggs in an aquarium, with a mortality of only 50 per cent. They consider that their results open up the possibility of a culture of the sole commercially.—Chlorophyllian assimilation realised outside the living organism, by M. Jean Friedel.—On the movements of the soil and the formation of the valleys in Walachia, by M. E. de Martonne.—On the law of the electrical stimulation of nerves, by M. Georges Weiss. For an electrical stimulation of the nerve lasting  $t$  seconds, it is necessary and sufficient that it puts into play a quantity of electricity given by the formula  $Q = a + bt$ ,  $a$  and  $b$  being two coefficients depending on the nerve and the distance of the electrodes. This includes the empirical formula of Hoorweg.—Researches on the injection of blood and of nephrotoxic serum in the dog, by M. Bierry.—Researches on the diseases of dogs. Vaccination of the dog against experimental infection, by M. C. Phisalix.—General characters of the teratogenous process, by M. Etienne Rabaud.—On the atmospheric dust observed at Tunis on March 10, by M. E. Bertainchand. An analysis of the red rain showed that it was essentially siliceous in character, containing only 6 per cent. of organic matter.—The movement in each synodic day of the instantaneous axis of symmetry of the barometric deviations, by M. A. Poincaré.

## ST. LOUIS.

Academy of Science, April 1.—Mr. John S. Thurman delivered an address on the many industrial uses now made of compressed air, illustrating his remarks by apparatus in operation, including electric motor air compressor, compressed air auger, drill, disinfecting atomizer, sculptors' and stone-cutters' tools, carpet renovators, &c., and a set of lantern slides showing the practical uses made of these and other implements and machines operated by means of compressed air.—Dr. Theodore Kodis exhibited, under the microscope, slides illustrating a new method of staining brain tissue, whereby, in four or five days, it has proved possible to prepare single or double stained preparations containing nerve cells with the dendrites of the latter brought out by a direct stain, instead of being differentiated merely as amorphous silhouettes, as is the case with the much slower Golgi process commonly employed. It was stated that the material is treated before sectioning, for about twenty-four hours, with cyanide of mercury, followed for approximately the same length of time by a formaldehyde solution, after which sections are cut, stained with phosphomolybdate hæmatoxylin and, if desired, a contrasting stain, such as one of the aniline greens, and mounted in the usual way.

## DIARY OF SOCIETIES.

## THURSDAY, MAY 16.

CHEMICAL SOCIETY, at 8.—The Nutrition of Yeast, Part III.: Dr. A. L. Stern.—Derivatives of Methylfurfural: H. J. H. Fenton and Miss Mildred Gostling.—The Preparation and Optical Inversion of Optically Active Nitrogen Compounds, dextro- and lævo- $\alpha$ -benzylphenyl-allyl-methylammonium Salts: W. J. Pope and A. W. Harvey.

## FRIDAY, MAY 17.

ROYAL INSTITUTION, at 9.—Turkish Kurdistan: Earl Percy. SOCIETY OF ARTS, at 8.—Polyphase Electric Working: A. C. Eborall. EPIDEMIOLOGICAL SOCIETY, at 8.30.—What is Plague: Dr. Klein, F.R.S.

## SATURDAY, MAY 18.

ROYAL INSTITUTION, at 3.—Rise of Civilisation in Egypt: Prof. W. M. Flinders Petrie.

## MONDAY, MAY 20.

ROYAL GEOGRAPHICAL SOCIETY.—Anniversary Meeting. VICTORIA INSTITUTE, at 4.30.

## TUESDAY, MAY 21.

ROYAL INSTITUTION, at 3.—Cellular Physiology: Dr. A. Macfadyen. ZOOLOGICAL SOCIETY, at 8.30.—On the more noticeable mammals obtained by Sir Harry Johnston, K.C.B., during his Recent Expedition to Mount Ruwenzori: Oldfield Thomas.—On some Arctic Nemertean: R. C. Punnett.—On the Anatomy of *Cogia breviceps*: Prof. W. B. Benham.

SOCIETY OF ARTS, at 8.—The Rise and Development of Egyptian Art: Prof. W. M. Flinders Petrie.

ROYAL STATISTICAL SOCIETY, at 5.—Calculation of National Resources: V. V. Branford.

## WEDNESDAY, MAY 22.

GEOLOGICAL SOCIETY, at 8.—On the Skull of a Chiru-like Antelope from the Ossiferous Deposits of Hunder, Tibet: R. Lydekker, F.R.S.—On the Occurrence of Silurian (?) Rocks in Forfarshire and Kincardineshire along the Eastern Border of the Highlands: George Barrow.—The Crush-Conglomerates of Argyllshire: J. B. Hill.

SOCIETY OF ARTS, at 8.—Testing and Training Distant Vision: R. Brudenell Carter.

## THURSDAY, MAY 23.

ROYAL SOCIETY, at 4.30.—*Probable papers*: On the Presence of a Glycolytic Enzyme in Muscle: Sir Lauder Brunton and Herbert Rhodes.—On Negative After-Images and their Relation to certain other Visual Phenomena: S. Bidwell, F.R.S.—The Solar Activity, 1833-1900: Dr. W. J. S. Lockyer.—A Comparative Crystallographical Study of the Double Selenates of the Series  $R_2M(SeO_4)_2 \cdot 6H_2O$ —Salts in which M is Magnesium: A. E. Tutton, F.R.S.—On the Intimate Structure of Crystals. Part V. Cubic Crystals with Octahedral Cleavage: Prof. W. J. Sollas, F.R.S.

ROYAL INSTITUTION, at 3.—The Chemistry of Carbon: Prof. J. Dewar, F.R.S.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Annual General Meeting.

## FRIDAY, MAY 24.

ROYAL INSTITUTION, at 9.—The Aims of the National Physical Laboratory: Dr. R. T. Glazebrook, F.R.S.

## SATURDAY, MAY 25.

ROYAL INSTITUTION, at 3.—The Rise of Civilisation in Egypt: Prof. W. M. Flinders Petrie.

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